

- 1 What is claimed is:
- 2 1. A multi-chip stack flip-chip package comprising:
- 3 a substrate having a top surface and a bottom surface;
- 4 at least a first flip chip disposed on the top surface of the substrate;
- 5 a dummy chip having a redistribution layer (RDL) and attached to the first flip chip;
- 6 at least a second flip chip mounted on the dummy chip and electrically connected to
- 7 the redistribution layer; and
- 8 a plurality of electrically connecting devices connecting the dummy chip with the
- 9 substrate.
- 10 2. The multi-chip stack flip-chip package as claimed in claim 1, wherein the substrate is
- 11 a printed circuit board.
- 12 3. The multi-chip stack flip-chip package as claimed in claim 1, wherein the dummy
- 13 chip is larger than the second flip chip in size.
- 14 4. The multi-chip stack flip-chip package as claimed in claim 1, wherein the
- 15 redistribution layer of the dummy chip has a plurality of bump pads, peripheral pads
- 16 and integrated circuit traces connecting the bump pads with the peripheral pads.
- 17 5. The multi-chip stack flip-chip package as claimed in claim 4, wherein the bump pads
- 18 have a pitch smaller than that of the peripheral pads.
- 19 6. The multi-chip stack flip-chip package as claimed in claim 5, wherein the pitch of the
- 20 bump pads is below 150 μm .
- 21 7. The multi-chip stack flip-chip package as claimed in claim 1, wherein the electrically
- 22 connecting devices are bonding wires.
- 23 8. The multi-chip stack flip-chip package as claimed in claim 1, further comprising
- 24 another dummy chip on the top surface of the substrate for mounting the first flip
- 25 chip.
- 26 9. The multi-chip stack flip-chip package as claimed in claim 1, wherein the first flip
- 27 chip is mounted on the top surface of the substrate.

- 1 10. The multi-chip stack flip-chip package as claimed in claim 1, further comprising a
2 plurality of solder balls bonded on the bottom surface of the substrate.
- 3 11. The multi-chip stack flip-chip package as claimed in claim 1, further comprising an
4 insulation compound formed on the top surface of the substrate.
- 5 12. A multi-chip stack flip-chip package comprising:
6 a substrate having a top surface and a bottom surface;
7 a chip assembly disposed on the top surface of the substrate; and
8 a plurality of electrically connecting devices connecting the chip assembly with the
9 substrate;
10 wherein the chip assembly comprises:
11 a dummy chip having a redistribution layer (RDL); and
12 at least a flip chip mounted on the dummy chip and electrically connected to the
13 redistribution layer.
- 14 13. The multi-chip stack flip-chip package as claimed in claim 12, wherein the substrate
15 is a printed circuit board.
- 16 14. The multi-chip stack flip-chip package as claimed in claim 12, wherein the
17 redistribution layer of the dummy chip has a plurality of bump pads, peripheral pads
18 and integrated circuit traces connecting the bump pads with the peripheral pads.
- 19 15. The multi-chip stack flip-chip package as claimed in claim 14, wherein the bump
20 pads have a pitch below 150 μm .
- 21 16. The multi-chip stack flip-chip package as claimed in claim 12, wherein the dummy
22 chip is larger than the flip chip in size.
- 23 17. The multi-chip stack flip-chip package as claimed in claim 12, further comprising an
24 insulation compound formed on the top surface of the substrate.
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